## **RAW SEQUENCE LISTING**

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 1051/100
Source: Date Processed by STIC: 5-1-06

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RAW SEQUENCE LISTING DATE: 05/01/2006
PATENT APPLICATION: US/10/537,102 TIME: 11:01:26

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3 <110> APPLICANT: Kuja-Panula, Juha
        Kiiltomaki, Marjaana
        Rauvala, Heikki
7 <120> TITLE OF INVENTION: NOVEL PROTEIN AND USES THEREOF
9 <130> FILE REFERENCE: 0933-0246PUS1
11 <140> CURRENT APPLICATION NUMBER: US 10/537,102
12 <141> CURRENT FILING DATE: 2005-06-02
14 <150> PRIOR APPLICATION NUMBER: US 60/433,011
15 <151> PRIOR FILING DATE: 2002-12-13
17 <160> NUMBER OF SEQ ID NOS: 79
19 <170> SOFTWARE: PatentIn version 3.3
21 <210> SEO ID NO: 1
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26 <220> FEATURE:
27 <221> NAME/KEY: CDS
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39 age tgt cct gcc gcc tgc ttg tgc gcc agc aac atc ctc agc tgc tcc
40 Ser Cys Pro Ala Ala Cys Leu Cys Ala Ser Asn Ile Leu Ser Cys Ser
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44 Lys Gln Gln Leu Pro Asn Val Pro His Ser Leu Pro Ser Tyr Thr Ala
47 cta ctg gac ctc agt cac aac ctg agc cgc ctg cgg gcc gag tgg
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48 Leu Leu Asp Leu Ser His Asn Asn Leu Ser Arg Leu Arg Ala Glu Trp
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51 acc ccc acg cgc ctg acc caa ctg cac tcc ctg ctg ctg agc cac aac
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52 Thr Pro Thr Arg Leu Thr Gln Leu His Ser Leu Leu Ser His Asn
55 cac ctg aac ttc atc tcc tct gag gcc ttt tcc ccg gta ccc aac ctg
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56 His Leu Asn Phe Ile Ser Ser Glu Ala Phe Ser Pro Val Pro Asn Leu
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60 Arg Tyr Leu Asp Leu Ser Ser Asn Gln Leu Arg Thr Leu Asp Glu Phe
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69 145	150		155		160
71 cag aaa ctc t 72 Gln Lys Leu 1			_	_	-
72 Gill bys bed .	165	GIII ASII G.	170	175	Giu
75 ctg gtc aag		aad cta co			ctc 576
76 Leu Val Lys		_			
=	180	_	35	190	ДСС
79 tct tct aac a					ctq 624
80 Ser Ser Asn 1		~			_
81 195	-	200	•	205	
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84 Pro Ala Trp	Ile Lys Asn	Gly Leu Ty	yr Leu His Ası	n Asn Pro Leu	Asn
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99 tac aag gag					atc 864
100 Tyr Lys Glu					
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111 tct aag gat					
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120 Ser var Gru 121 355	ьец пув va.	I HIS ASH 1	ene mi Leu H	is Giy His His	a wah
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124 Thr Leu Asn					
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	nr 9	Ory	Val	CIU	_	110	DCI	DCI	1113		Gry	vob	Ser	пец		Ser	
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																	1296
	O'ST	MC.	ш∉а		1111	1111	FLO	ASII		Asp	PIO	Met	AIC.	_	Grā	ASO	
		~a+	~~+		+++	~~~	~~~	~~~		~~+	++-		~~~				1244
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	пуѕ	Asp	_	GIY	Pne	Asp	Arg	_	vai	Ala	Pne	Leu		Pro	Ата	GIY	
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	Pro	_	GIN	GIY	GIN	Asn	_	гÀг	Leu	ьуs	Pro	-	Asn	Thr	ьеи	Pro	
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		Pro	GIu	Ala	Thr	_	Lys	GIY	GIn	Arg	_	Met	Ser	Asp	Pro		
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52 53 55 56	Met 1 Leu	His Ser	Pro	His Leu 20	Arg 5 Leu	Phe	Glu	Val	Ala 25	10 Arg	Ala	Gly	Arg	Ala 30	15 Val	Val	
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52 53 55 56 58 59 71	Met 1 Leu Ser Lys	His Ser Cys Gln 50	Pro Leu Pro 35 Gln	His Leu 20 Ala Leu	Arg 5 Leu Ala Pro	Phe Cys Asn	Glu Leu Val	Val Cys 40 Pro	Ala 25 Ala His	10 Arg Ser Ser	Ala Asn Leu	Gly Ile Pro 60	Leu 45 Ser	Ala 30 Ser Tyr	15 Val Cys Thr	Val Ser Ala	
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Pro Glu Ala Thr Gly Lys Gly Gln Arg Arg Met Ser         48       Val Pro Glu Ala Thr Gly Lys Gly Gln Arg Arg Met Ser         465       470         485       485         485       490         485       485         485       490         485       490         485       490         485       490         485       490	31       cgg ggt gta gaa gaag cct tcc agc cat caa gga gac agc ctc         32       Arg Gly Val Glu Lys Pro Ser Ser His Gln Gly Asp Ser Leu         33       405       410         35       tcc atg ctt agt acc aca ccc aac cat gat cct atg gct ggt         36       Ser Met Leu Ser Thr Thr Pro Asn His Asp Pro Met Ala Gly         37       420       425         430       420       425         430       430         43       430         43       430         43       435         43       440         43       445         43       440         43       445         43       440         445       445         43       440         445       445         43       440         45       450         47       455         48       450         47       455         48       450         47       455         48       470         485       470         485       485         485       490         485       490         485 </td <td>1 cgg ggt gta gag aag cct tcc agc cat caa gga gac agc ctc agc 2 Arg Gly Val Glu Lys Pro Ser Ser His Gln Gly Asp Ser Leu Ser 405</td> <td>11 cgg ggt gta gag aag cct tcc agc cat caa gga gac agc ctc agc tct ag Arg Gly Val Glu Lys Pro Ser Ser His Gln Gly Asp Ser Leu Ser Ser His Gln Gly Asp Glo Gly Asp Glo Glo Ser Met Leu Ser Thr Thr Pro Asn His Asp Pro Met Ala Gly Gly Asp App App His Gly Gly Asp App App His Gly Gly Asp App App App His Gly Gly Asp App App App Gly Phe Asp Arg Arg Val Ala Phe Leu Glu Pro Ala Gly His Gly Gly Gly Gly App App App Gly Gln Gly Gln Asn Gly Lys Leu Lys Pro Gly Asn Thr Leu Pro His Gly Gly Gln Asp App Gly Gln Asp App Gly Gln Ash Gly Lys Leu Lys Pro Gly Asn Thr Leu Pro His App Cly Gln Gly Gln Asp Gly Gln Arg Arg Met Ser Asp Pro Glu App App App App Glu App App App Glu App App App App App App App App App Ap</td>	1 cgg ggt gta gag aag cct tcc agc cat caa gga gac agc ctc agc 2 Arg Gly Val Glu Lys Pro Ser Ser His Gln Gly Asp Ser Leu Ser 405	11 cgg ggt gta gag aag cct tcc agc cat caa gga gac agc ctc agc tct ag Arg Gly Val Glu Lys Pro Ser Ser His Gln Gly Asp Ser Leu Ser Ser His Gln Gly Asp Glo Gly Asp Glo Glo Ser Met Leu Ser Thr Thr Pro Asn His Asp Pro Met Ala Gly Gly Asp App App His Gly Gly Asp App App His Gly Gly Asp App App App His Gly Gly Asp App App App Gly Phe Asp Arg Arg Val Ala Phe Leu Glu Pro Ala Gly His Gly Gly Gly Gly App App App Gly Gln Gly Gln Asn Gly Lys Leu Lys Pro Gly Asn Thr Leu Pro His Gly Gly Gln Asp App Gly Gln Asp App Gly Gln Ash Gly Lys Leu Lys Pro Gly Asn Thr Leu Pro His App Cly Gln Gly Gln Asp Gly Gln Arg Arg Met Ser Asp Pro Glu App App App App Glu App App App Glu App App App App App App App App App Ap

Input Set : A:\2006-01-26 0933-0246PUS1.ST25.txt
Output Set: N:\CRF4\05012006\J537102.raw

198 Ser Ser Asn Lys Leu Lys Asn Leu Pro Leu Pro Asp Leu Gln Lys Leu 199 195 200 201 Pro Ala Trp Ile Lys Asn Gly Leu Tyr Leu His Asn Asn Pro Leu Asn 215 204 Cys Asp Cys Glu Leu Tyr Gln Leu Phe Ser His Trp Gln Tyr Arg Gln 230 235 207 Leu Ser Ser Val Met Asp Fhe Gln Glu Asp Leu Tyr Cys Met Asn Ser 245 250 210 Lys Lys Leu His Asn Val Phe Asn Leu Ser Phe Leu Asn Cys Gly Glu 260 265 213 Tyr Lys Glu Arg Ala Trp Glu Ala His Leu Gly Asp Thr Leu Ile Ile 280 216 Lys Cys Asp Thr Lys Gln Gln Gly Met Thr Lys Val Trp Val Thr Pro 217 290 295 219 Ser Asn Glu Arg Val Leu Asp Glu Val Thr Asn Gly Thr Val Ser Val 310 315 222 Ser Lys Asp Gly Ser Leu Leu Phe Gln Gln Val Gln Val Glu Asp Gly 330 225 Gly Val Tyr Thr Cys Tyr Ala Met Gly Glu Thr Phe Asn Glu Thr Leu 34Ü 345 228 Ser Val Glu Leu Lys Val His Asn Phe Thr Leu His Gly His His Asp 360 231 Thr Leu Asn Thr Ala Tyr Thr Thr Leu Val Gly Cys Ile Leu Ser Val 375 234 Val Leu Val Leu Ile Tyr Leu Tyr Leu Thr Pro Cys Arg Cys Trp Cys 390 237 Arg Gly Val Glu Lys Pro Ser Ser His Gln Gly Asp Ser Leu Ser Ser ~ 405 410 240 Ser Met Leu Ser Thr Thr Pro Asn His Asp Pro Met Ala Gly Gly Asp 420 425 -243 Lys Asp Asp Gly Phe Asp Arg Arg Val Ala Phe Leu Glu Pro Ala Gly 244 435 440 246 Pro Gly Gln Gly Gln Asn Gly Lys Leu Lys Pro Gly Asn Thr Leu Pro 455 460 249 Val Pro Glu Ala Thr Gly Lys Gly Gln Arg Arg Met Ser Asp Pro Glu 470 475 252 Ser Val Ser Ser Val Phe Ser Asp Thr Pro Ile Val Val 485 257 <210> SEQ ID NO: 3 258 <211> LENGTH: 1566 259 <212> TYPE: DNA 260 <213> ORGANISM: Homo sapiens 262 <220> FEATURE: 263 <221> NAME/KEY: CDS 264 <222> LOCATION: (1)..(1566) 266 <400> SEQUENCE: 3 267 atg tcg tta cgt gta cac act ctg ccc acc ctg ctt gga gcc gtc gtc 268 Met Ser Leu Arg Val His Thr Leu Pro Thr Leu Leu Gly Ala Val Val 10

Input Set : A:\2006-01-26 0933-0246PUS1.ST25.txt
Output Set: N:\CRF4\05012006\J537102.raw

	aga Arg									-	_	_					96
273				20					25					30			
	gtg																144
276 277	Val	Gly	Pro 35	Gly	Ala	Ser	Gly	Val	Cys	Pro	Thr	Ala	Cys 45	Ile	Cys	Ala	
	act	asc.		ata	200	tac	200		222	220	ata	taa	,	ata	act.	~~~	192
	Thr																192
	TIII		116	VAI	ser	Cys	_	ASII	ьys	ASII	ьeu		ج لأب	Val	PIO	GIA	
281		50					55					60					
	aac																240
	Asn	Leu	Phe	Arg	Leu		Lys	Arg	Leu	Asp	Leu	Ser	Tyr	Asn	Arg	Ile	
285	65					70					75					80	
287	999	ctt	ctg	gat	tct	gag	tgg	att	cca	gta	tcg	ttt	gca	aag	ctg	aac	288
288	Gly	Leu	Leu	Asp	Ser	Glu	$\mathtt{Trp}$	Ile	Pro	Val	Ser	Phe	Ala	Lys	Leu	Asn	
289					85					90					95		
291	acc	cta	att	ctt	cgt	cat	aac	aac	atc	acc	agc	att	tcc	acg	ggc	agt	336
292	Thr	Leu	Ile	Leu	Arg	His	Asn	Asn	Ile	Thr	Ser	Ile	Ser	Thr	Gly	Ser	
293				100					105					110	_		
295	(Att	tcc	aca	adt	cca	aat	ttg	aag	tgt	ctt	gac	tta	teg	tida	aat	aag	384
	Phe						_		_		_		_				•
297			115					120	-		-		125			4	
299	çtg	aaq	acq	ata	aaa	aat	act	gta	ttc	caa	gag	tta		att	cta	gaa	432
	Leu						_	_				_	_	_	_	_	
301		130			-1-		135			0111		140				014	
	gtg		cta	ctt	tac	aac		cac	ata	tee	tat		aat	cct	tca	aca	480
	Val																400
	145	шец	пси	Leu	ı yı	150	VOII	птэ	116	261	155	neu	Asp	PIO	per	160	
	ttt	~~~	~~~	ata	taa		++~	~~~		a+ a		++-	- ~+	~~~	<del>-</del>		E20
																	528
	Phe	Gry	GIY	пеп		GIII	Leu	GIII	гуѕ		TYL	Leu	ser	GIY		Pne	
309					165					170					175		
	ctc																576
	Leu	Thr	GIN		Pro	мет	Asp	ьeu	_	vai	GIY	Arg	Pne	-	Leu	Ala	
313				180					185					190			
	gaa																624
	Glu	Leu		Phe	Leu	Asp	Val		Tyr	Asn	Arg	Ile		Ser	Met	Pro	
317			195					200					205				
	atg																672
320	Met		His	Ile	Asn	Leu		Pro	Gly	Lys	Gln	Leu	Arg	Gly	Ile	Tyr	
321		210					215					220					
	ctt																720
324	Leu	His	Gly	Asn	Pro	Phe	Val	Cys	Asp	Cys	Ser	Leu	Tyr	Ser	Leu	Leu	
325	225					230					235					240	
327	gtc	ttt	tgg	tat	cgt	agg	cac	ttt	agc	tca	gtg	atg	gat	ttt	aag	aac	768
328	Val	Phe	Trp	Tyr	Arg	Arg	His	Phe	Ser	Ser	Val	Met	Asp	Phe	Lys	Asn	
329					245					250			_		255		
331	gat	tac	acc	tgt	cgc	ctg	tgg	tct	gac	tcc	agg	cac	tcg	cgt	cag	gta	816
	Āsp																
333	-	-		260	_		_		265		_			270			
335	ctt	cta	ctc	caq	gat	aqc	ttt	atq	aat	tac	tct	qac	agc	atc	atc	aat	864
		_		_	_	_				_		_	_				

Input Set : A:\2006-01-26 0933-0246PUS1.ST25.txt

Output Set: N:\CRF4\05012006\J537102.raw

## Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

```
Seq#:39; Xaa Pos. 1,3,4,6,8,9,11,13,14,15,16,17,18,19,21,22,24,25,27,28,30
Seq#:39; Xaa Pos. 32,33,35,37,38,39,40,17,42,43,45,46,48,49,51,52,54,56,57
Seq#:39; Xaa Pos. 59,61,67,66,7,7,79,50,82,84,85
Seq#:39; Xaa Pos. 86,87,88,88,90,71,93,94,86,91,99,100,102,104,105,107,105
Seq#:39; Xaa Pos. 117,117,112,113,114,115,117,118,120,121,123,124,126,128
Seq#:39; Xaa Pos. 129,131,133,134,135,136,137,136,139,141,142,144
Seq#:40; Xaa Pos. 1,4,6,8,9,11,14,15,16,18,19,20,21,22,23,25,26,27,28
Seq#:41; Xaa Pos. 1,3,6,8,9,11,15,17,18,19,20,21,22,23,25,26,28,29
Seq#:79; Xaa Pos. 2,3,5,7,8,10,11,12,13,14,15,16,17,18,19
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## VERIFICATION SUMMARYDATE: 05/01/2006PATENT APPLICATION: US/10/537,102TIME: 11:01:27

Input Set : A:\2006-01-26 0933-0246PUS1.ST25.txt
Output Set: N:\CRF4\05012006\J537102.raw

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L:6144 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:0
L:6148 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:16
L:6152 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:32
L:6156 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:48
L:6160 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:64
L:6164 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:64
L:6168 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:80
L:6168 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:96
L:6172 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:112
L:6176 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:128
L:6242 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40 after pos.:0
L:6246 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40 after pos.:0
L:6311 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41 after pos.:0
L:6315 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41 after pos.:0
L:6820 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41 after pos.:0
L:6820 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:79 after pos.:0
```